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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,144	07/24/2003	Karl W. Terry	LENST-004A	9309

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EXAMINER	
ZIMMER, MARC S	

ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/626,144	TERRY, KARL W.	
	Examiner	Art Unit	
	Marc S. Zimmer	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6-8,10-19,26,28-31 and 35-64* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-3,6-8,10-17 and 41-52* is/are allowed.

6)☒ Claim(s) *18,19,26,28-31,35-40 and 53-64* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Based on an indication of allowable subject matter in claim 5, Applicant has amended claim 1 to include the limitations of this claim. This limitation, in the Examiner's estimation is not even rendered obvious by the prior art- all of the Examples disclose compositions wherein the number of moles of the epoxy-functional silane is higher than that for the disilane corresponding the the multipodal silane of the instant invention- hence claims are considered to be allowable.

The Examiner had also indicated that those method claims reciting a step wherein an organic portion of the composition was polymerized prior to curing were allowable but the Examiner has since ascertained why the skilled artisan would be motivated to do so. Accordingly, at least some of the method claims are believed to be unpatentable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 18, 19, 26, 28-31, 35-40, and 53-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry et al., U.S. Patent # 6,342,097 in view of Valeri et al., U.S. Patent Application Publication No. 2003/0118737. Terry et al. disclose every aspect of claims 18, 19, and 35 except for the incorporation of a photoinitiator and the prepolymerization of an organic functional component of the compositions respectively.

See the correspondence dated February 22, 2005 for a more comprehensive explanation of the relevance of this document.

Terry discloses silane additives in column 10, some of which have polymerizable groups such as vinyltrimethoxysilane and 3-methacryloxypropyltrimethoxysilane. Applicant is advised that the Examiner considers these materials to be both silanes having organic polymerizable groups and organic compounds having polymerizable groups so all of the material components of both method claims method claims are anticipated with the exception of, again, the photoinitiator. The epoxy-functional silane is, likewise, both a silane having organic polymerizable groups and an organic compound having polymerizable groups. That is, the epoxy-functional silane alone would have satisfied Applicant's requirements that an epoxy-functional silane and a silane/organic compound having organic polymerizable groups be present.

Valeri et al. teach that similar coating compositions of the prior art containing epoxy-functional silanes, when cured using only thermal energy, are hard but take a long time to cure so as to make the process less economical. Attempts to cure these materials using UV light alone, ostensibly by polymerization of the epoxy moieties have yielded a faster process but one that produces a film of inferior hardness (see paragraphs 3-6). As a means of addressing the deficiencies of these prior art processes, Valeri proposes a dual-curing process (paragraphs 10-14) wherein a coated substrate is first subjected to UV light to promote photopolymerization in the presence of a photoinitiator (paragraphs 32-33) after which thermal curing is carried out to faciliate polycondensation of the alkoxysilane moieties. According to paragraph 49, the time

needed for thermal curing to be completed is only on the order of 1 minute whereas this same step takes an hour or more where it is not preceded by photopolymerization (paragraph 4). In view of these teachings, it would have been obvious to one of ordinary skill to (I) add a photoinitator to the composition of Terry et al. and (ii) carry out a prepolymerization prior to polycondensation for the reason stated above.

Claims 18, 19, 26, 28-31, 35-40, 53-56, and 58-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshita et al., U.S. Patent # 6,057,039 in view of Valeri et al., U.S. Patent Application Publication No. 2003/0118737. See the correspondence dated February 22, 2005 for an explanation of the relevance of *Takeshita*. Valeri may be combined with Takeshita for the same reason as it was with *Terry* to arrive at the claimed invention. Also, as before, the fact that Takeshita teaches an expoy-functional silane means that Applicant's requirement for a silane additive having an organic polymerizable functional group is also satisfied.

Allowable Subject Matter

Claims 1-3, 6-8, 10-17, and 41-52 are allowable. The Examiner wishes to comment further on the allowability of claim 10. Terry et al. do, in fact, mention amines and diamides as suitable condensation catalysts at the bottom of column 10. However, the basis of the Examiner's rejection over original claim 1 was that the reference also taught the utilization of organic sulfonic acids, which are strong, as catalysts. In order for claim 10 to have been anticipated by Terry, there would have to have been some suggestion that (i) combinations of different condensation catalysts could be employed

and (ii) amines/amides and strong acids would have constituted an appropriate combination. (The concept of using both a strong acid and a base as a catalysts at the same time seems unlikely given that there would obviously be some expectation that they might react with one another.) In any case, there is no mention that more than one condensation catalyst should, or even could, be employed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 28, 2005

Marc Zimmer
AU 1712